

Revised Set of Claims (1.9.1999)

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1. Multipoint-to-point transmission method for sending frames of data from at least two sending nodes via one or more forwarding nodes to one receiving node in an ATM network wherein each frame of data is partitioned into cells, comprising the steps of:
 - the sending nodes include a first label into each of the cells representing an identification of the routing of the cell,
 - the sending nodes include a second label into each of the cells representing an identification of the source of the cell,
 - the forwarding node swaps both the first label associated with a forward direction and the second label associated with a backward direction using a swapping table.

2. Method according to claim 1, further comprising the step of:

the forwarding node swaps the first and the second label according to the same swapping table.

3. Method according to claim 1, further comprising the step of:

with respect to the second label, the forwarding node enters the swapping table in the column of the output labels and reads the corresponding input label.

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4. Method according to claim 1 or claim 3, further comprising the step of:

the swapping of the second label is carried out for the same ports of the respective forwarding node as for the first label.

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5. Method according to one of claims 1 to 4, further comprising the step of:

the first label is written in and read from the VPI field of the respective cell and the second label is written in and read from the VCI field of the respective cell.

6. Apparatus for sending frames of data in a multipoint-to-point fashion from at least two sending nodes via one or more forwarding nodes to one receiving node in an ATM network wherein each frame of data is partitioned into cells, comprising:

in the sending nodes, means for including a first label into each of the cells representing an identification of the routing of the cell,

in the sending nodes, means for including a second label into each of the cells representing an identification of the source of the cell,

in the forwarding node, means for swapping both the first label associated with a forward direction and the second label associated with a backward direction using a swapping table.

7. Apparatus according to claim 6, further comprising:

in the forwarding node, means for swapping the first and the second label according to the same swapping table.

8. Apparatus according to claim 7, further comprising:

in the forwarding node, means for entering the swapping table in the column of the output labels and means for reading the corresponding input label.

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